ABSTRACT

A system and a method for determining a biopsy location in a body part are provided. The system includes a first device configured to obtain digital physiological image data about the body part, a second device configured to obtain anatomical image data about the body part, a monitor configured to display the anatomical image data, a signal processing module that includes an analog-to-digital converter configured to digitize the anatomical image data, a memory configured to store the digital physiological image data and the digitized anatomical image data, and a correlator coupled to the memory and configured to correlate the digital physiological image data with the digitized anatomical image data and to produce a combined image as a result of the correlation. A determination of a biopsy location is made on the basis of the combined image. The first device may include a positron emission tomography scanner machine. The second device may include one of the group consisting of a digital x-ray machine, an x-ray mammography machine, an x-ray cranial axial tomography machine, a magnetic resonance imaging machine, and an ultrasound machine. The system may also include a localization device, such as a computer mouse, that is configured to select a preferred subset of the second image data based on the digital physiological image data. The first device may be configured to use a predetermined spatial coordinate system. The correlator may include a transformer configured to transform the data into the predetermined spatial coordinate system.

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